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Marine Casualty Investigations

Enquêtes sur les accidents maritimes

Investigation Report to the Minister pursuant to sections 542 or 545 of the Canada Shipping Act

Rapport d'investigation au Ministre conformément aux articles 542 ou 545 de la Loi sur la marine marchande du Canada

Canada

Ce rapport est aussi disponible en français.

REPORT OF INVESTIGATION INTO THE CIRCUMSTANCES ATTENDING THE COLLISION BETWEEN THE BULK CARRIER "JALAVIHAR" AND THE SAILING YACHT "GÉRARD LAMBERT" IN THE ATLANTIC OCEAN, NOVEMBER 20, 1986.

REPORT No. 475

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REPORT OF INVESTIGATION INTO THE CIRCUMSTANCES ATTENDING THE COLLISION BETWEEN THE BULK CARRIER "JALAVIHAR" AND THE SAILING YACHT "GÉRARD LAMBERT" IN THE ATLANTIC OCEAN, NOVEMBER 20, 1986.

Particulars of Commercial Vessel

Name	"JALAVIHAR"
Official Number	1704
Port of Registry	Bombay, India
Call Sign	ATPG
Gross Tonnage	42,141
Net Tonnage	28,188
Length	245.36 m
Breadth	32.26 m
Depth	18.75 m
Draught	F:10.15 m A:10.49 m
Type	Bulk Carrier
Built	1976, Glasgow, Scotland
Propulsion	Burmeister & Wain 6K90GF, 18,600 b.h.p., engine-room controlled, driving a single fixed pitch propeller, 15.25 knots
Cargo	49,020 tonnes of iron ore
Crew	54
Passenger	2
Classification	Lloyds
Owners	The Scindia Steam Navigation Co. Ltd., Bombay, India
Operators	Transatlantic Bulk Shipping, Gothenburg, Sweden

Charterers	Braemar Shipping Montreal, Quebec
Agents	Montreal Shipping Inc., Montreal, Quebec

Navigating Equipment

Radar (1)	Racal-Decca (¼-96 miles) ARPA 1690
Radar (2)	Decca TM 1629
Direction Finder	ITT Marine
Echo Sounder	Kelvin Hughes type M Mark 3
Decca	Navigator MAK 21
Loran C	Decca - 1024
VHF R/T (1)	Dancom RT 408
VHF R/T (2)	Marconi marine
SSB	ITT marine
Watchkeeping 2182 kHz	Ship's Electronic Services Ltd.
Gyro Compass	Sperry MK-37
Magnetic Compass	Reflector type
Autopilot	Sperry
Course Recorder	Sperry

Particulars of Sailing Yacht

Name	"GÉRARD LAMBERT"
Racing Name	"CALCIALIMENT LAITERIE MONT ST-MICHEL"
Official Number	607564 (W)
Port of Registry	Vanne, France
Call Sign	FIKS

Gross Tonnage	13.45
Net Tonnage	13.45
Length	13.46 m
Breadth including sponson	14.88 m
Depth	1.98 m
Draught including centre board	1.9 m
Type	Sailing Yacht, Multi-hull Class III
Built	1983, Larzeau, France
Propulsion	Sails
Crew	1
Owners	La Sarl Competitor Paris, France
Race Organizers	Route du Rhum, Maillard Publicité, Paris, France
Charterer/Operator	Olivier Moussy, Boulogne, France

Navigating Equipment

Radar Detector Alarm	Actuated when the radar waves of another operating radar are picked up - Range 6 miles
Direction Finder	Lo KATA
Decca	Phillips
Loran C	Furuno
Sat-Nav	Shipmate RS 5000
VHF R/T (1)	Radio Ocean
VHF R/T (2)	Portable - Radio Ocean

MF	Europa
Electric Compass	Plastimo
Magnetic Compass	Plastimo
Course deviation alarm	Actuated when the vessel's head deviates by 15° or more from her pre-set course
Navigation Computer	Dannavigate 7000
Autopilot	Plastimo AT 50 1 in use and 5 spares
Autopilot alarm	Actuated when vessel yaws more than 10° on either side of the course steered

Description of vessel

The "GÉRARD LAMBERT" was a single mast, single deck trimaran of composite hull construction comprising carbon fibres, glass reinforced plastic and airex foam. The vessel was fitted with an adjustable centre board that could be lowered to a maximum depth of 2.2 m below the keel and was reportedly 1.5 m below the keel at the time of the casualty giving a total draught of 1.9 m.

Note: 1. All times in this report are expressed in the time zone (UTC minus 2 hours) kept aboard the "JALAVIHAR".

2. A glossary of terms and abbreviations can be found following the Findings in this report.

Background

There is growing International concern at the risks taken and, sometimes, the enormity of the resultant SAR costs, in the proliferation of single-handed ocean voyages undertaken by yachtsmen. Often it is difficult, if not impossible, to assemble the facts surrounding casualties involving these yachtsmen. Canadian law enables witnesses, arriving or found in Canada, to a casualty occurring outside Canada to be interviewed. Unusually, witnesses from both vessels involved in this casualty arrived in Canada. It was on this basis that it was decided to investigate this casualty for the purpose of making the facts known.

The bulk carrier "JALAVIHAR" was enroute from Lower

Buchanan, Liberia to Contrecoeur, Quebec and the racing yacht "GÉRARD LAMBERT" was enroute from St. Malo, France to Pointe-à-Pitre, Guadeloupe participating in the single-handed race Route du Rhum 1986.

At 0229, November 20, 1986, in position Lat 29°08'N, Long 36°00'W, the operator of the "GÉRARD LAMBERT" was asleep when the sailboat ran almost 'head-on' into the starboard shipside of the "JALAVIHAR" in way of her bridge wing.

The "JALAVIHAR" sustained minor hull damage comprising slight scoring and indentation on the starboard quarter in way of the engine-room. The sailboat was abandoned and the operator, along with his personal effects including electronic equipment, was taken aboard the "JALAVIHAR" and brought to Canada.

Although badly damaged, the "GÉRARD LAMBERT" is known to have stayed afloat for several days but owing to the extent of her damage, she is considered to be a constructive total loss. The estimated cost of the vessel was about $400,000. There was no injury or pollution as a result of the casualty.

Narrative

"GÉRARD LAMBERT"

The racing sail yacht "GÉRARD LAMBERT", participating in the single-handed race Route du Rhum 1986, departed St. Malo, France, November 9, 1986 bound for Pointe-à-Pitre, Guadeloupe in the West Indies. On November 19, 1986, the "GÉRARD LAMBERT" was sailing in a south-westerly direction to take advantage of the wind. At the end of the day, the spinnaker was lowered and the vessel sailed with a Genoa and a full main. The vessel sailed on a course of 230°T at an estimated speed of about 12-16 knots with the visibility exceeding 7 nautical miles. The wind was from the ENE at 20-22 knots and the vessel was steered by autopilot. Reportedly, the navigation lights, course deviation alarm, radar detector alarm, autopilot alarm, computerized navigation system and ARGOS System were all in the 'on' position and functioning satisfactorily. There were no other vessels in sight. The operator set the time alarm for 1 hour and after ensuring that the vessel was steering a desired course satisfactorily on the autopilot, he proceeded to have a short sleep.

At about 0229, November 20, the operator was suddenly awakened by the impact of his sailboat with another vessel, later identified to be the "JALAVIHAR". He immediately

rushed to the cockpit and saw the stern of the vessel passing by. He also noticed that the bow of the trimaran and the starboard sponson were badly damaged, that the forward stay with the genoa was hanging on the mast and that the mast was moving dangerously back and forth. He fired 3 red flares and broadcast a 'MAYDAY' message on VHF R/T channel 16 which was acknowledged by the "JALAVIHAR". He tried to lower the mainsail in an attempt to stop the sailboat but was unsuccessful as the sail had become hooked onto the top of the mast. He then disengaged the autopilot and stopped the vessel by bringing her head into the wind. The operator contacted the race co-ordinators in France and apprised them of the situation. During the collision, the forward stay of the sailboat's mast and the mast itself had come into contact with the starboard bridge wing of the "JALAVIHAR" and sustained damage. Realizing the hazardous situation caused by this damage, the operator used a metal saw and cut the mast shrouds thereby allowing the mast to fall into the water.

The operator, aware of the approach of a tropical storm which was heading his way, took into consideration the extensive damage sustained by his vessel, and decided in the interest of safety to abandon his vessel and indicated his intentions to the master of the "JALAVIHAR". The "JALAVIHAR" then approached the "GÉRARD LAMBERT" to render assistance.

"JALAVIHAR"

The bulk carrier "JALAVIHAR" departed Lower Buchanan, Liberia, November 13, 1986 bound for the Canadian port of Contrecoeur, Quebec. At the time of the collision, the second officer was the OOW and he was positioned on the port bridge wing. As the vessel was being steered by autopilot, the person designated as helmsman was acting as a lookout and he was positioned inside the wheel-house slightly to starboard of the centreline. The radar was not in use. The weather conditions were reported to be: winds, east-north-east at 17-27 knots; wave height, 3.5 m - 4.5 m; partly cloudy moonlit sky and 7 miles visibility. The vessel was steering 318°G to make good 315°T with an allowance of +3° for leeway. The average speed of the vessel as calculated from her noon position of November 19, was 12.75 knots.

At about 0210, both the OOW and the look-out reportedly sighted a white light estimated to be 4 points on the starboard bow and the OOW estimated the distance to be 4-5 miles; no precise bearing was taken. The OOW then looked through the binoculars and confirmed the light to be a single white light well above the water that appeared to him to be

that of a sailing vessel. He found it strange for a sailing vessel to be so far away from land in the Atlantic Ocean (about 670 miles from The Azores), so he tried to contact this vessel on VHF R/T channel 16 but received no response. At about 0225, the white light was estimated to be about 6 points on the starboard bow at a distance of about 1 mile and no other lights were visible. Reportedly, the bearing was opening and the distance was reducing. It appeared to the OOW that the sailing vessel would pass clear on the starboard side, astern of the "JALAVIHAR". At about 0227, the sailing vessel was estimated to be about 7 points on the starboard bow at about the same distance i.e. 1 mile. At this stage, the OOW proceeded to the chart-room to obtain the chart co-ordinates so that he could once again attempt to contact the sailing vessel using these co-ordinates as reference. As the OOW was coming out of the wheel-house, he glanced on the starboard beam and discovered the sailing vessel to be very close. He immediately changed the steering from autopilot to manual, yelled out to the helmsman to take the helm and rushed to the starboard bridge wing. On his way to the starboard wing, he heard a crash and upon reaching the bridge wing, saw that the sailing vessel had collided at an aspect of almost 90° with the starboard hull plating of the "JALAVIHAR". The sailing vessel's mast had dislodged the starboard bridge wing lifebuoy smoke float from its stowage position on the "JALAVIHAR", and had activated it. The time was 0229. He then saw the sailing vessel crossing the wake astern of the "JALAVIHAR" and in order to keep the former in sight, the OOW ordered the helm to 'hard a port'. At about this time, he saw red flares and heard a 'MAYDAY' transmission on VHF R/T channel 16 from the sailing vessel "GÉRARD LAMBERT". Aboard the "JALAVIHAR", the master was immediately informed of the collision and the engine-room notified to switch over to diesel oil. At about 0232, the master arrived on the bridge and took over the conduct of the vessel. The radar was switched on, VHF contact with the "GÉRARD LAMBERT" established, the crew turned to and preparations were made to effect the rescue of the lone operator.

Events following the collision

Following the collision, the "JALAVIHAR" established VHF radiotelephone communication on channel 16 with the "GÉRARD LAMBERT" to ascertain the extent of damage sustained by the sailboat, the type of assistance the "JALAVIHAR" could render and the intention of the sailboat's operator with respect to his vessel. The operator informed the master of the "JALAVIHAR" that in view of the forthcoming adverse weather, he would be compelled to abandon her. Whilst the "JALAVIHAR" stood by the "GÉRARD LAMBERT" and made preparations for rescue operations, the operator of the

"GÉRARD LAMBERT" prepared to abandon his vessel and salvage most of his personal belongings including his electronic equipment. However, the ARGOS system was left aboard the sailing vessel to enable the organizers of the race in France to monitor her position periodically. The "JALAVIHAR" was manoeuvred close to the sailboat and using the former's line throwing apparatus, a line was obtained from the sailboat and secured aboard the bulk carrier. The operator of the sailboat was advised by the "JALAVIHAR" to wear his lifejacket which he did. Three cases of personal effects including salvaged electronic equipment were then hauled aboard the "JALAVIHAR" between 0440 and 0500.

At 0506, the operator abandoned his vessel and boarded the bulk carrier. At 0525, the "GÉRARD LAMBERT" was cast off and set adrift and the "JALAVIHAR" resumed her passage to Contrecoeur. The rest of the trip was uneventful and the vessel arrived at Lanoraie anchorage, P.Q., St. Lawrence River, at 1728, November 27, 1986.

Analysis

1. Weather

The weather conditions at the time of casualty as reported by the "JALAVIHAR" were similar in context to those reported by the "GÉRARD LAMBERT" and were winds from the ENE at 20-25 knots, 2 m - 4 m sea/swell, partly cloudy moonlit sky and 8 to 10 miles visibility.

During the period two to three days prior to the casualty, the "GÉRARD LAMBERT" reportedly experienced good weather with 10-15 knot winds.

The operator of the "GÉRARD LAMBERT" would listen daily at 0200Z to the broadcast of a half-hour long weather forecast. Further, in order to assist him in planning his strategy for the race, the weather forecast areas were further subdivided into smaller areas. Based on the latest weather data available, a weather specialist stationed at La Rochelle, France and deployed by the "GÉRARD LAMBERT", would provide the operator with additional detailed weather forecasts.

2. Current

According to the pilot chart of the North Atlantic Ocean published by the Defense Mapping Agency of the United States of America, the current was setting westerly at a rate of about 0.5 knot. However, the current is not

considered to be a factor in the casualty.

3. **Speed of the vessels**

The average speed of the "JALAVIHAR" at the time of collision as calculated from the November 19 noon position was 12.75 knots. The average speed of the sailboat "GÉRARD LAMBERT" from the last observed plotted position at 0753, November 19 to the time of collision at 0229, November 20 was approximately 10 knots. However, according to the operator of the "GÉRARD LAMBERT", the speed of his sailboat at the time of the collision was about 12-16 knots.

If the evidence is accepted that the courses of both vessels were almost at right angles to each other and that the sailboat was first observed 4 points on the starboard bow of the "JALAVIHAR", it then follows that for both vessels to have collided, the speed of the sailboat would have had to have been very close to that of the "JALAVIHAR" i.e. 12.75 knots. On the other hand, if the second observation of the OOW of the "JALAVIHAR" was accurate, i.e. the sailboat was 6 points on the freighter's starboard bow, then for a collision to have occurred, the speed of the "GÉRARD LAMBERT" would have had to have been considerably greater than the 12.75 knots speed of the "JALAVIHAR". (See fig. 2).

4. **Alarms, navigation lights and navigation equipment**

"GÉRARD LAMBERT"

The sailing vessel was equipped with a tricoloured combined lantern comprising the sidelights and the stern light. This lantern was fitted on the top of the mast and complied with the International Regulations for Preventing Collisions at Sea, 1972. The vessel was in possession of a Permis de Navigation (Safety Inspection Certificate) issued by the Republic of France with the annual endorsement dated October 20, 1986. Reportedly, all navigation equipment was functioning satisfactorily at the time of the collision. Besides being equipped with a passive radar reflector, she was equipped with a number of alarms including the following:

(a) Autopilot alarm - this alarm is actuated when the vessel yaws 10° or more on either side of the course to be steered.

(b) Course deviation alarm - this alarm is actuated when the course of the vessel deviates from the pre-set course by 15° or more on either side of the vessel.

(c) Radar detector alarm - this alarm is actuated when it detects the presence of another operating radar set within a nominal range of 6 miles.

These alarms were set to these limits and had been switched on prior to the casualty but reportedly none of them had sounded prior to the collision. Further, had the radar set aboard the "JALAVIHAR" been in use at the time of collision, it would have triggered the radar detector alarm aboard the "GÉRARD LAMBERT" and warned her operator of the presence of the "JALAVIHAR" and the collision could possibly have been averted.

"JALAVIHAR"

The bulk carrier was equipped with 2 radar sets, one of which was fitted with ARPA facilities. However, as the visibility was good on this transatlantic passage, both radar sets were 'switched off' for part of the passage and remained so at the time of the casualty. The use of radar aboard this vessel was left to the discretion of the OOW, who chose not to use the set and no restrictions were placed on its use either by the master or by company instructions.

The vessel was equipped with gyro repeaters for taking bearings, including one on each of the port and starboard wings of the bridge, which were fitted with the necessary azimuth mirrors. The field of visibility of these repeaters is such that they afford a clear view on their respective sides.

All navigation lights were lit at the time of the casualty and besides being equipped with an alarm system to indicate any failure, the navigation lights were visually inspected by the OOW at the commencement of his watch around 0000.

5. Watchkeeping aboard "GÉRARD LAMBERT"

The duration of the race from St. Malo to Pointe-à-Pitre was estimated to be between 16-17 days. As the sailing vessel was manned by a single person, the watchkeeping practices aboard the vessel fluctuated to meet the daily operational demands placed by a number of factors including the weather conditions, the status in the race, the density of traffic in the area and the requirements for steering based on the sails in use: i.e. when sailing with a spinnaker, there is a greater demand for the use of the helm resulting in the restricted use of the autopilot. On the average, the operator

would try to obtain a minimum of 5 hours sleep per day, some of which would have been during daylight. However, as a buffer against periods when sleep/rest would be difficult to obtain, the operator would try to obtain as much sleep as possible when circumstances permitted. Reportedly, the operator was well rested for the past 3 days and had been able to obtain his self-imposed quota of sleep/rest. The normal practice of this operator was to have no more than one hour's sleep at a time. Before taking such a sleep, he would set his alarm clock and if no other alarms went off during that interval, he would awaken in about one hour's time. He would then proceed to the cockpit, glance outside for traffic, check barometric pressure, adjust the sails and autopilot, if required, and after having satisfied himself that everything met with his approval, he would then turn-in to resume his sleep/rest.

On the morning of November 20, 1986, the operator had followed the same procedure and was reportedly asleep at the time of collision.

At least once daily, the operator of the "GÉRARD LAMBERT" would obtain a fix and plot the position on the chart.

6. IMO and Single-handed races

The issue of single-handed yacht voyages over long distances has been extensively debated at the IMO in the Sub-Committee on Safety of Navigation (NAV). As a result of these discussions, the IMO circulated MSC/Circ. 242, wherein concern was expressed with respect to the increasing number of single-handed races and voyages by small vessels over long distances where compliance with the 1972 Collision Regulations would be impossible. Further, the Maritime Safety Committee strongly urged Member Governments to examine critically the conditions under which voyages and organized contests or races are held for single-handed vessels and ensure that safety of navigation is not affected. (See Annex II for excerpts.)

7. Aspects of vessels

At the time of the casualty, the "JALAVIHAR" was steering a course of 318°G to make good a course of 315°T, allowing 3° to starboard for leeway. This course is consistent with the course as recorded on the vessel's course recorder and in the deck log book.

The OOW aboard the "JALAVIHAR" positively identified the characteristic of the light sighted on the starboard bow as being a fixed, clear white light with fair intensity and located at the top of a mast. The abandonment of the "GÉRARD LAMBERT" in mid-Atlantic precluded any examination of the vessel but it was reported that there were 3 white lights known to have been located at or near the top of the mast of the "GÉRARD LAMBERT". These were (a) the stern sector of the navigation light (b) the strobe light (warning and emergency light) and (c) the weather vane illumination light.

The difference in characteristics between the observed light and the strobe light eliminates the latter as a possibility. Reportedly, the weather vane illumination light was not lit at the time of the casualty. However, even if it had been lit inadvertently, it is highly unlikely that this light, by its very nature, could have been sighted as a clear white light. Hence, the white light seen by the OOW would have had to have been the white sector of the tricoloured navigation light of the sailing vessel.

The "GÉRARD LAMBERT" was steering a course of 246°C to make good a course of 230°T, allowing for 16°W variation. This course is reasonably consistent with the track of the vessel from the last observed recorded position on the chart at 0753, November 19, and the near right angle at which the sailing vessel was observed by the OOW of the "JALAVIHAR" to collide with his vessel. Thus, on the mean heading of 230°T, the mean sectors of the navigation lights displayed by the "GÉRARD LAMBERT" would have been as follows:

red light (port sidelight)	- from 117½° to 230°
green light (starboard sidelight)	- from 230° through west to 342½°
white light (stern light)	- from 342½° through north to 117½° (See - fig. 1)

Hence, under these circumstances, with the "GÉRARD LAMBERT" steering a mean course of 230°T, the only navigational light that could have been seen by the "JALAVIHAR" would have had to have been the red (port) sidelight of the sailing vessel.

8. Collision Regulations

See Annex 1 for excerpts from the Regulations.

(a) Risk of collision

The "GÉRARD LAMBERT" was first sighted by the "JALAVIHAR" some 19 minutes before the collision. Although the "JALAVIHAR" was equipped with a gyro repeater on each wing of the bridge, readily accessible to the OOW, no compass bearings were taken. Between the first and second observations, the change in bearing was about 22° in about 15 minutes. Between the second and third observations, the change in bearing was about 11° in about 2 minutes with no apparent change in distance. These changes in the bearings, distances and times are approximate only and consequently cannot be considered adequate to enable the OOW to accurately determine the risk of collision.

The operator of the "GÉRARD LAMBERT" was reportedly asleep at the time of collision and was therefore unable to determine the risk of collision. 'All available means' were not used by either vessel to determine if a risk of collision existed, thereby contravening Rule 7, Risk of Collision, of the International Regulations for Preventing Collision at Sea, 1972.

(b) Responsibility between vessels

The "JALAVIHAR", a power-driven vessel underway, failed to keep out of the way of the sailing vessel "GÉRARD LAMBERT" when involved in a crossing situation as required by Rule 18, Responsibilities between Vessels, of the International Regulations for Preventing Collisions at Sea, 1972.

(c) Action to avoid collision

Although it was appreciated that the craft was probably a sailing vessel, the "JALAVIHAR" made no alteration of course nor reduction in speed nor did she stop her engine to avoid collision. Further, she failed to take any positive action to avoid a 'close-quarters situation' in accordance with Rule 8, Action to avoid Collision, of the International Regulations for Preventing Collisions at Sea, 1972.

Action by give-way vessel

The collision occurred in open waters and there was no other traffic in the vicinity which could have interfered with the manoeuvring of either vessel. Despite this, the "JALAVIHAR" failed to take 'early and substantial action to keep well clear' of the 'Stand-on' vessel, "GÉRARD LAMBERT" in accordance with Rule 16, Action by Give-way Vessel, of the International Regulations for Preventing Collisions at Sea, 1972.

Action by stand-on vessel

The "GÉRARD LAMBERT", being a stand-on vessel, maintained her course and speed. The cockpit of the "GÉRARD LAMBERT" was not manned at the time of collision and consequently she did not take any action when collision was imminent contrary to the requirements of Rule 17, Action by Stand-on-Vessel of the International Regulations for Preventing Collisions at Sea, 1972.

(d) Look-out

The "GÉRARD LAMBERT" was manned by a single person who was reportedly asleep at the time of the collision. Being alone, it would be impossible to be awake 24 hours a day for the duration of the 16-17 day race. Nevertheless, the "GÉRARD LAMBERT" failed to maintain 'a proper look-out by sight and hearing' (see analysis 6 and 10) in accordance with Rule 5, Look-out, of the International Regulations for Preventing Collision at Sea, 1972.

(e) Warning signals and signals to attract attention

The operator of "GÉRARD LAMBERT" was asleep at the time of collision and consequently he was not in a position to ascertain whether sufficient action was taken by the "JALAVIHAR" to avoid collision. On the other hand, despite the OOW's concern for the sailboat, any 'sound signals or light signals' which could have been used by the "JALAVIHAR" to attract the attention of the sailboat as specified by Rule 36, (Signals to attract Attention, of the International Regulations for Preventing Collisions at Sea, 1972) were not used.

However, had the "JALAVIHAR", which had sighted the light of the "GÉRARD LAMBERT" some 19 minutes before

the collision, sounded such a signal, it may have warned the latter of the former's presence and the collision may have been averted.

9. Notices to mariners

Portishead Radio Station in England has no record of a Notship (Notice to Shipping) broadcast with regard to the single-handed race Route du Rhum. Also, the organizers of this race were contacted in France with a view to obtaining Notship information but to date no response has been received.

10. VHF communication

The "GÉRARD LAMBERT", being a pleasure yacht, was not required to comply with the VHF requirements contained in the International Convention for the Safety of Life at Sea, 1976. However, the "GÉRARD LAMBERT" was equipped with a VHF set which was functioning satisfactorily at the time of collision. Reportedly, upon first sighting the sailboat, the OOW aboard the "JALAVIHAR" endeavoured to establish radio communications with the sailboat (name unknown at that time) but the communication was not received aboard the latter as the operator was asleep. Had this communication been established, both the OOW aboard the "JALAVIHAR" and the operator aboard the "GÉRARD LAMBERT" would have been made aware of the presence and intention of the other vessel and the collision may have been averted.

11. Salvage

The collision between the "JALAVIHAR" and the "GÉRARD LAMBERT" occurred at 0229, November 20, 1986. After broadcasting a 'MAYDAY' message and having established radio communications with the "JALAVIHAR", the operator of the "GÉRARD LAMBERT" contacted his sponsors in France and apprised them of the casualty. He then successfully salvaged most of the electronic navigation equipment and personal effects but left the liferaft and the log book on board. The operator of the "GÉRARD LAMBERT" was aware that due to the sailboat's construction, she was expected to remain afloat for a considerable period of time before being disintegrated by the forces of nature. The vessel, now a derelict, was a hazard to navigation and it was considered prudent to issue a Notship, warning mariners of her existence. Hence, in order to enable the authorities to update the derelict's position in the Notship, the ARGOS data collection system, although expensive, was left aboard the "GÉRARD

LAMBERT". Owing to the protruding mast, now underwater, the "GÉRARD LAMBERT" sustained additional damage when the "JALAVIHAR" came alongside her. The salvaged electronic equipment along with the personal effects of the operator were taken aboard the "JALAVIHAR" by 0500 and at 0506, the operator boarded the vessel by way of a pilot ladder.

The "JALAVIHAR" was not equipped with derricks or cranes and consequently was not in a position to consider hoisting the sailboat aboard the vessel, even if such a feat was considered possible under the prevailing weather conditions and being without specialized lifting gear for the triple-hulled vessel.

The distress signals of the "GÉRARD LAMBERT" were also observed and acknowledged by another vessel reportedly positioned some 20 miles away. The "JALAVIHAR" contacted this vessel, apprised her of the situation, requested identification of the vessel and asked if she was equipped with derrick/crane to recover the "GÉRARD LAMBERT". The responding vessel did not identify herself but indicated that she was not equipped with a derrick/crane.

12. Log book

The operator of the "GÉRARD LAMBERT" was bound by a contract with La Sarl Competitor and was required by the latter to maintain a log book in which the following entries were mandatory:

(a) chronological entries pertaining to the security of the vessel, weather conditions and all occurrences affecting safety of life at sea, and

(b) information concerning the 'conduct of the vessel' at sea.

Such a log book was carried and maintained aboard the sailboat but reportedly the operator omitted to take this log book when he abandoned her.

13. Survival/Distress Equipment

The "GÉRARD LAMBERT" complied with the Government of France regulatory requirement for a pleasure craft of her size and type. All life-saving equipment met Class I offshore sailing vessel standards imposed by France and their performance was as follows:

Liferaft	one 6-person inflatable liferaft was not used and was left on board at the time of abandoning the vessel.
Lifebuoy	two with self-igniting lights. They were not used.
Lifejackets	6 approved lifejackets on board of which one was worn by the operator when abandoning his vessel.
EPIRB	2 on board of which one was salvaged but there was no requirement for their use.
Immersion suits	none on board.
Pyrotechnics	used to attract attention of the "JALAVIHAR" and also sighted by another vessel about 20 miles away.
VHF R/T	one synthesized and one hand-held. These were used to communicate the distress message and follow-up communication.
Harness	6 on board but there was no requirement for their use.

14. Crew certification

The second officer aboard the "JALAVIHAR" was in possession of an Indian Certificate of Competency as Master of a Foreign-Going ship issued in January 1986. He has a total of 10 years sea service including a formal training period. He has been a second officer since 1981 and has been aboard this vessel since April 1986.

The helmsman aboard the "JALAVIHAR" was not certificated nor was he required to be. He has been at sea since 1961 and has been a helmsman since 1975. He joined this vessel in August 1986.

The operator of the "GÉRARD LAMBERT" was not certificated nor was he required to be. His sea experience includes 12 Atlantic crossings of which some were single-handed and others with crew.

Findings

The bulk carrier "JALAVIHAR" and the racing sail yacht "GÉRARD LAMBERT" were involved in a collision when the bow of the sailboat struck the starboard shipside of the bulk carrier, at night, in good visibility, in the Atlantic Ocean on November 20, 1986.

It would appear that the following factors contributed to this collision:

"JALAVIHAR"

- the "JALAVIHAR" was in contravention of Rule 7 of the Collision Regulations in that compass bearings were not taken to ascertain if risk of collision existed;

- the "JALAVIHAR" was in contravention of Rule 8 of the Collision Regulations in that the vessel failed to take positive action either to avoid collision or a close-quarters situation;

- the "JALAVIHAR" was in contravention of Rule 18 of the Collision Regulations in that, being the power-driven vessel, she failed to keep out of the way of the sailing vessel "GÉRARD LAMBERT";

- the 'give-way' vessel "JALAVIHAR" was in contravention of Rule 16 of the Collision Regulations in that she failed to take early and substantial action to avoid collision;

- lights and/or sound signals which could have been used by the "JALAVIHAR" to attract attention of the sailing vessel as specified in Rule 36 of the Collision Regulations were not used; and

- the imprudent action on the part of the OOW to proceed to the chart-room when the other vessel was only 1 mile off.

"GÉRARD LAMBERT"

- the "GÉRARD LAMBERT" was in contravention of Rule 5 of the Collision Regulations in that the vessel failed to maintain a look-out by sight and by hearing;

- as the "GÉRARD LAMBERT" was manned by a single person who was asleep at the time of collision:

(a) the vessel contravened Rule 7 of the Collision Regulations in that the vessel failed to determine that there was a risk of collision;

(b) the vessel contravened Rule 17 of the Collision Regulations in that the vessel failed to take action when collision was imminent; and

(c) the vessel failed to sound either the warning signals or use the light and/or sound signal to attract attention of the "JALAVIHAR" thereby contravening Rule 34 (d) of the Collision Regulations.

Other Findings

Had the operator of the "GÉRARD LAMBERT" been awake, VHF communication between vessels may have been established and the collision averted.

Although not mandatory, had the "JALAVIHAR" used the radar equipped with ARPA facilities, not only would the OOW have been warned of the risk of collision with the sailing vessel, but the radar detector alarm aboard the "GÉRARD LAMBERT" would probably have been activated and warned her operator of the presence of a nearby vessel.

The participation of a vessel in a single-handed race of long duration indicates by its very nature that the participating vessel, must, of necessity, contravene a number of provisions of the Collision Regulations.

OTTAWA, ONTARIO
JUNE 1987.

Glossary

ARGOS System	a data collection and location by satellite system is primarily intended to locate fixed or mobile platforms and to collect environmental data from these platforms. Additionally, this system is also used for various programmes in meteorology, oceanography, offshore (fleet monitoring), hydrology, biology, vulcanology and seismology.
ARPA	Automatic Radar Plotting Aid
Autopilot aboard the "GÉRARD LAMBERT"	An electro-magnetic automatic steering system designed to keep a boat on a predetermined set course using input from an optical electro-magnetic compass.
Autopilot aboard the "JALAVIHAR"	An all electric automatic steering system designed to keep a ship on a predetermined set course using input from a gyro compass.
EPIRB	Emergency Position Indicating Radio Beacon
G	Gyro
IMO	International Maritime Organization
M	Magnetic
Nominal range	range at which the device is able to receive radar signals in clear homogeneous atmospheric conditions
OOW	Officer of the watch
T	True
Z	Co-ordinated Universal Time

Zone time	time kept aboard the vessel with reference to a nearby meridian.

APPROXIMATE TRACK OF BOTH VESSELS

LE SILLAGE DES DEUX BÂTIMENTS EST APPROXIMATIF

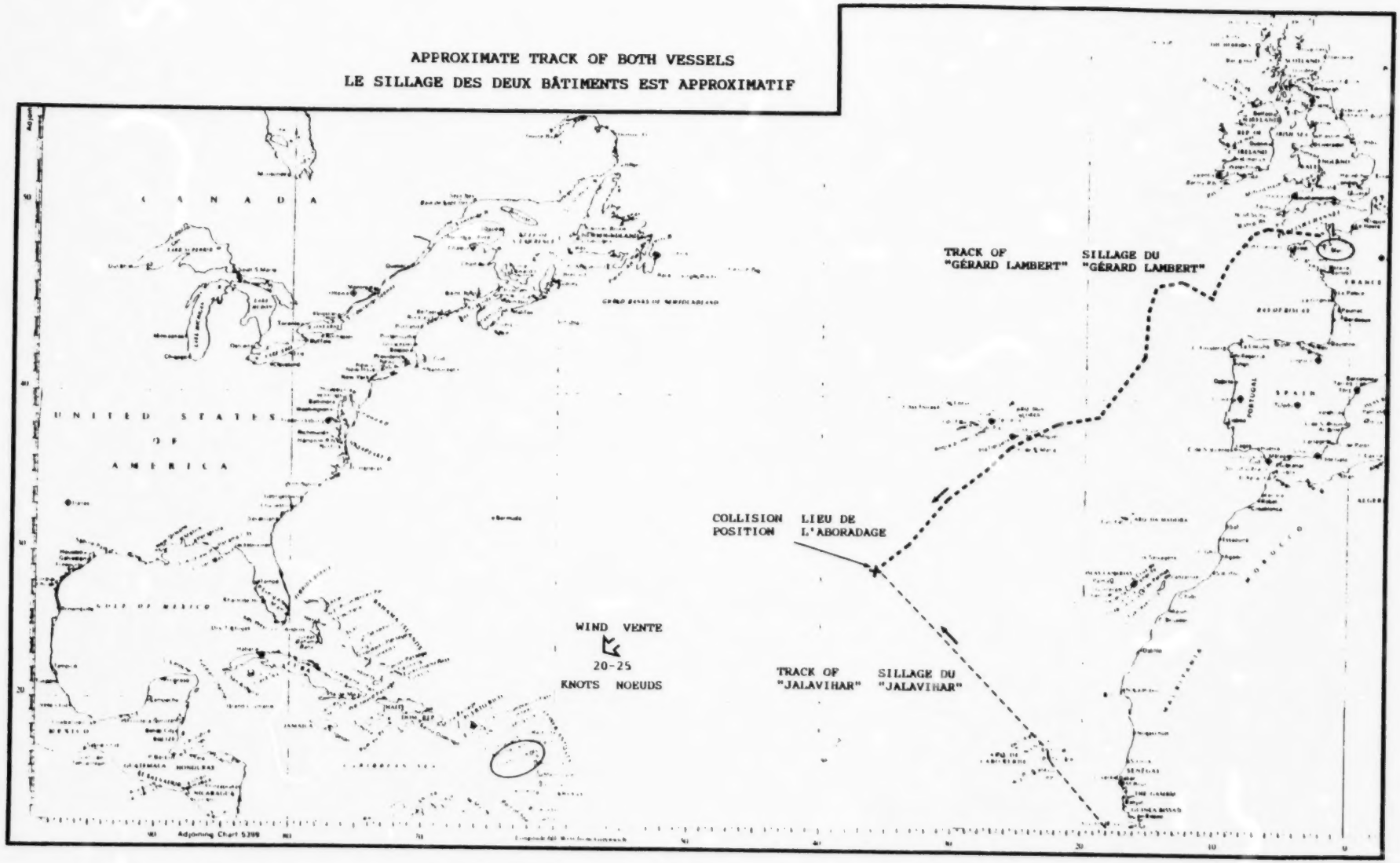
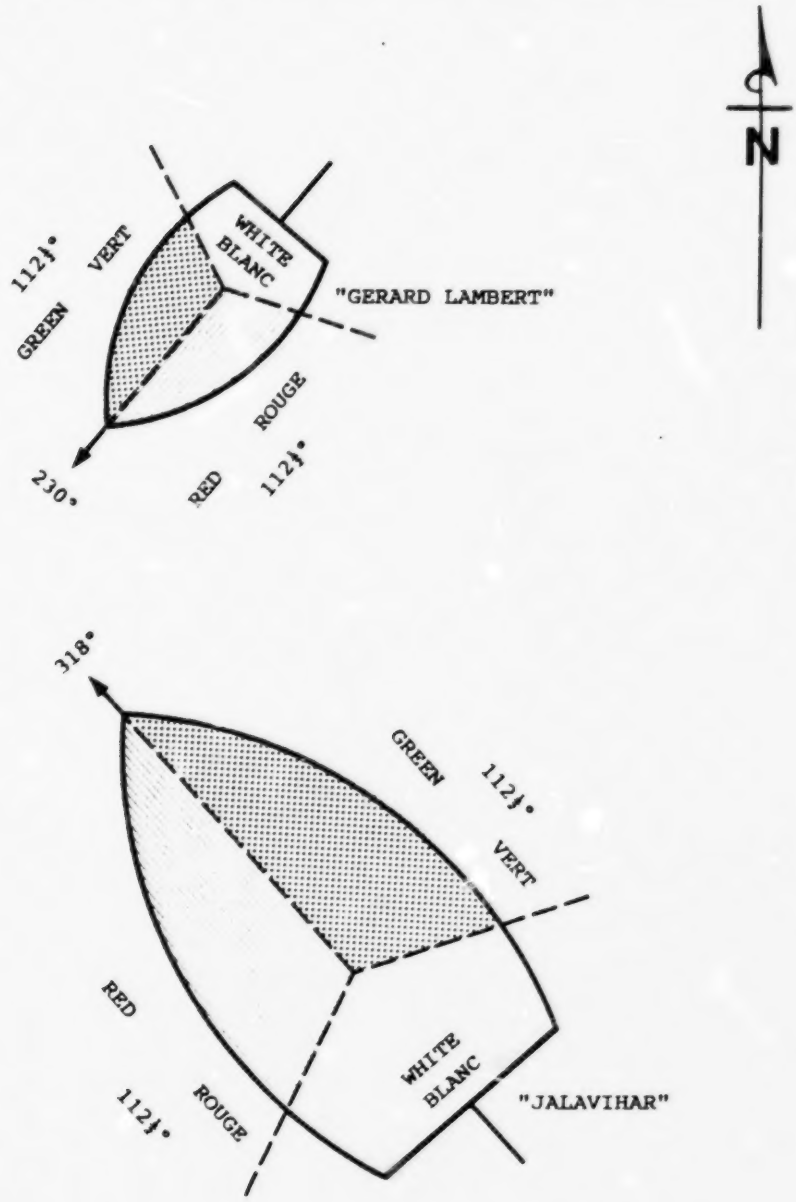


FIG. 1

ASPECT OF VESSELS ASPECT DES BÂTIMENTS

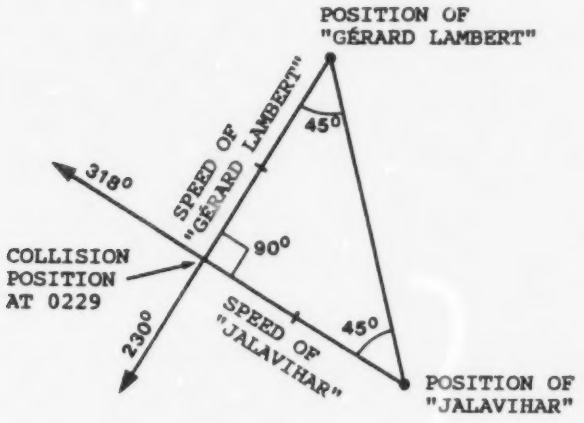


NOTE: WITH THE KNOWN TRACKS OF BOTH VESSELS, THE ONLY NAVIGATIONAL LIGHT OF THE "GERARD LAMBERT" THAT COULD HAVE BEEN SEEN BY THE "JALAVIHAR" WAS THE RED (PORT) SIDELIGHT OF THE SAILING VESSEL.

NOTA : CONNAISSANT LE SILLAGE DES DEUX BÂTIMENTS, LE SEUL FEU DE NAVIGATION DU "GERARD LAMBERT" QU'ON AURAIT PU APERCEVOIR DU "JALAVIHAR" AURAIT ÉTÉ LE FEU DE CÔTÉ ROUGE DU VOILIER.

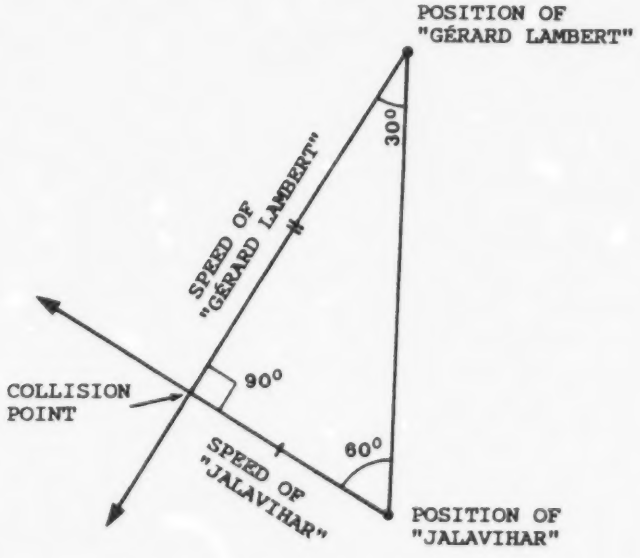
FIG. 2

FIGURE BASED ON THE FIRST SIGHTING AT ABOUT 0210



IT IS EVIDENT FROM THE FIGURE THAT FOR THE COLLISION TO HAVE OCCURRED, THE SPEED OF "GÉRARD LAMBERT" WOULD HAVE HAD TO HAVE BEEN VERY CLOSE TO THAT OF THE "JALAVIHAR" i.e. 12.75 KNOTS

FIGURE BASED ON THE SECOND SIGHTING AT ABOUT 0225



IT IS EVIDENT FROM THE FIGURE THAT FOR THE COLLISION TO HAVE OCCURRED, THE SPEED OF THE "GÉRARD LAMBERT" WOULD HAVE HAD TO HAVE BEEN CONSIDERABLY GREATER THAN THAT OF THE "JALAVIHAR" i.e. GREATER THAN 12.75 KNOTS

SPEED OF THE TWO VESSELS IN RELATION TO EACH OTHER

NOTE: BEARINGS AND VESSELS' HEADINGS ARE APPROXIMATE

ANNEX I

Collision Regulations

International regulations for preventing collisions at sea, 1972

REGULATIONS FOR THE PREVENTION OF COLLISIONS

RULE 5

Look-out

Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

RULE 7

Risk of Collision

(*a*) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(*b*) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(*c*) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.

(*d*) In determining if risk of collision exists the following considerations shall be among those taken into account:

(i) such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change,

(ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

APPENDICE I

Règlement sur les abordages

Règlement international de 1972 pour prévenir les abordages en mer

RÈGLEMENT POUR PRÉVENIR LES ABORDAGES

RÈGLE 5

Veille

Tout navire doit en permanence assurer une veille visuelle et auditive appropriée, en utilisant également tous les moyens disponibles qui sont adaptés aux circonstances et conditions existantes, de manière à permettre une pleine appréciation de la situation et du risque d'abordage.

RÈGLE 7

Risque d'abordage

a) Tout navire doit utiliser tous les moyens disponibles qui sont adaptés aux circonstances et conditions existantes pour déterminer s'il existe un risque d'abordage. S'il y a doute quant au risque d'abordage, on doit considérer que ce risque existe.

b) S'il y a à bord un équipement radar en état de marche, on doit l'utiliser de façon appropriée en recourant, en particulier, au balayage à longue portée afin de déceler à l'avance un risque d'abordage, ainsi qu'au «plotting» radar ou à toute autre observation systématique équivalente des objets détectés.

c) On doit éviter de tirer des conclusions de renseignements insuffisants, notamment de renseignements radar insuffisants.

d) L'évaluation d'un risque d'abordage doit notamment tenir compte des considérations suivantes:

(i) il y a risque d'abordage si le relèvement au compas d'un navire qui s'approche ne change pas de manière appréciable;

(ii) un tel risque peut parfois exister même si l'on observe une variation appréciable du relèvement, particulièrement lorsque l'on s'approche d'un très grand navire, d'un train de remorque ou d'un navire qui est à courte distance.

RULE 16

Action by Give-way Vessel

Every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear.

RULE 17

Action by Stand-on Vessel

(*a*) (i) Where one of two vessels is to keep out of the way, the other shall keep her course and speed.

(ii) The latter vessel may however take action to avoid collision by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules.

(*b*) When, from any cause, the vessel required to keep her course and speed finds herself so close that collision cannot be avoided by the action of the give-way vessel alone, she shall take such action as will best aid to avoid collision.

(*c*) A power-driven vessel which takes action in a crossing situation in accordance with subparagraph (*a*)(ii) of this Rule to avoid collision with another power-driven vessel shall, if the circumstances of the case admit, not alter course to port for a vessel on her own port side.

(*d*) This Rule does not relieve the give-way vessel of her obligation to keep out of the way.

RULE 18

Responsibilities between Vessels

Except where Rules 9, 10 and 13 otherwise require:

(*a*) A power-driven vessel underway shall keep out of the way of:

(i) a vessel not under command,

(ii) a vessel restricted in her ability to manoeuvre,

(iii) a vessel engaged in fishing,

(iv) a sailing vessel.

(*b*) A sailing vessel underway shall keep out of the way of:

(i) a vessel not under command,

(ii) a vessel restricted in her ability to manoeuvre,

(iii) a vessel engaged in fishing.

RULE 25

Sailing Vessels Underway and Vessels Under Oars—International

(*a*) A sailing vessel underway shall exhibit:

(i) sidelights,

(ii) a sternlight.

(*b*) In a sailing vessel of less than 20 metres in length the lights prescribed in paragraph (*a*) of this Rule may be combined in one lantern carried at or near the top of the mast where it can best be seen.

(*c*) A sailing vessel underway may, in addition to the lights prescribed in paragraph (*a*) of this Rule, exhibit at or near the top of the mast, where they can best be seen, two all-round lights in a vertical line, the upper being red and the lower green, but these lights shall not be exhibited in conjunction with the combined lantern permitted by paragraph (*b*) of this Rule.

REGLE 16

Manœuvre du navire non privilégié

Tout navire qui est tenu de s'écarter de la route d'un autre navire doit, autant que possible, manœuvrer de bonne heure et franchement de manière à s'écarter largement.

RÈGLE 17

Manœuvre du navire privilégié

a) (i) Lorsqu'un navire est tenu de s'écarter de la route d'un autre navire, cet autre navire doit maintenir son cap et sa vitesse.

(ii) Néanmoins, ce dernier peut manœuvrer, afin d'éviter l'abordage par sa seule manœuvre, aussitôt qu'il lui paraît évident que le navire qui est dans l'obligation de s'écarter de sa route n'effectue pas la manœuvre appropriée prescrite par les présentes règles.

b) Quand, pour une cause quelconque, le navire qui est tenu de maintenir son cap et sa vitesse se trouve tellement près de l'autre que l'abordage ne peut être évité par la seule manœuvre du navire qui doit laisser la route libre, il doit de son côté faire la manœuvre qui est la meilleure pour aider à éviter l'abordage.

c) Un navire à propulsion mécanique qui manœuvre pour éviter un abordage avec un autre navire à propulsion mécanique dont la route croise la sienne dans les conditions prévues à l'alinéa *a*)(ii) de la présente règle ne doit pas, si les circonstances le permettent, abattre sur bâbord lorsque l'autre navire est bâbord à lui.

d) La présente règle ne saurait dispenser le navire qui doit laisser la route libre de l'obligation de s'écarter de la route de l'autre navire.

RÈGLE 18

Responsabilités réciproques des navires

Sauf dispositions contraires des règles 9, 10 et 13:

a) Un navire à propulsion mécanique faisant route doit s'écarter de la route:

(i) d'un navire qui n'est pas maître de sa manœuvre;

(ii) d'un navire à capacité de manœuvre restreinte;

(iii) d'un navire en train de pêcher;

(iv) d'un navire à voile.

b) Un navire à voile faisant route doit s'écarter de la route:

(i) d'un navire qui n'est pas maître de sa manœuvre;

(ii) d'un navire à capacité de manœuvre restreinte;

(iii) d'un navire en train de pêcher.

RÈGLE 25

Navires à voile faisant route et navires à l'aviron—International

a) Un navire à voile qui fait route doit montrer:

(i) des feux de côté;

(ii) un feu de poupe.

b) A bord d'un navire à voile de longueur inférieure à 20 mètres, les feux prescrits à l'alinéa *a*) de la présente règle peuvent être réunis en un seul fanal placé au sommet ou à la partie supérieure du mât, à l'endroit le plus visible.

c) En plus des feux prescrits au paragraphe *a*) de la présente règle, un navire à voile faisant route peut montrer, au sommet ou à la partie supérieure du mât, à l'endroit où ils sont le plus apparents, deux feux superposés visibles sur tout l'horizon, le feu supérieur étant rouge et le feu inférieur vert. Toutefois, ces feux ne doivent pas être montrés en même temps que le fanal autorisé par le paragraphe *b*) de la présente règle.

RULE 34

Manoeuvring and Warning Signals—International

(*d*) When vessels in sight of one another are approaching each other and from any cause either vessel fails to understand the intentions or actions of the other, or is in doubt whether sufficient action is being taken by the other to avoid collision, the vessel in doubt shall immediately indicate such doubt by giving at least five short and rapid blasts on the whistle. Such signal may be supplemented by a light signal of at least five short and rapid flashes.

RÈGLE 34

Signaux de manœuvre et signaux d'avertissement—International

d) Lorsque deux navires en vue l'un de l'autre s'approchent l'un de l'autre et que, pour une raison quelconque, l'un d'eux ne comprend pas les intentions ou les manœuvres de l'autre, ou se demande si l'autre navire prend les mesures suffisantes pour éviter l'abordage, le navire qui a des doutes les exprime immédiatement en émettant au sifflet une série rapide d'au moins cinq sons brefs. Ce signal peut être complété par un signal lumineux d'au moins cinq éclats brefs et rapides.

RULE 36

Signals to attract Attention

If necessary to attract the attention of another vessel any vessel may make light or sound signals that cannot be mistaken for any signal authorized elsewhere in these Rules, or may direct the beam of her searchlight in the direction of the danger, in such a way as not to embarrass any vessel. Any light to attract the attention of another vessel shall be such that it cannot be mistaken for any aid to navigation. For the purpose of this Rule the use of high intensity intermittant or revolving lights, such as strobe lights, shall be avoided.

RÈGLE 36

Signaux destinés à appeler l'attention

Tout navire peut, s'il juge nécessaire d'appeler l'attention d'un autre navire, émettre des signaux lumineux ou sonores ne pouvant être confondus avec tout autre signal autorisé par l'une quelconque des présentes règles, ou bien orienter le faisceau de son projecteur en direction du danger qui menace un navire de façon telle que ce faisceau ne puisse gêner d'autres navires. Tout feu destiné à attirer l'attention d'un autre navire ne doit pas pouvoir être confondu avec une aide à la navigation. Aux fins de la présente règle, l'emploi de feux intermittents ou tournants à haute intensité, tels que les phares gyroscopiques, doit être évité.

ANNEX II

MSC/Circ. 242
6 October 1973

IMCO

Ref: T2/2.01

SINGLE-HANDED VOYAGES

1. The Maritime Safety Committee at its thirty-ninth session was informed of the concern expressed by the Sub-Commitee on Safety of Navigation with respect to the increasing number of single-handed races and voyages by small vessels over long distances where compliance with the 1972 Collision Regulations would be impossible.

2. Recognizing that any action necessary to ensure compliance with Rule 5 or other Rules of the 1972 Collision Regulations should be left to the discretion of Governments, the Committee strongly urged Member Governments to examine critically the conditions under which voyages and organized contests or races are held for single-handed vessels and ensure that safety of navigation is not affected.

3. Governments are requested to bring this matter to the attention of all concerned.

IMO SUB-COMMITTEE ON NAVIGATION SAFETY
(29th SESSION: JUNE 1984)

NAV 29/11

4.4 Single-handed voyages

4.4.4. The Sub-Committee noted information provided by Norway (NAV 29/4) regarding a court decision, upheld by a higher court, that a yachtsman on a single-handed voyage who had gone to bed and slept while the vessel crossed an area of heavy traffic and then stranded, was not keeping a proper lookout as required by Rule 5 of the 1972 collision Regulations.

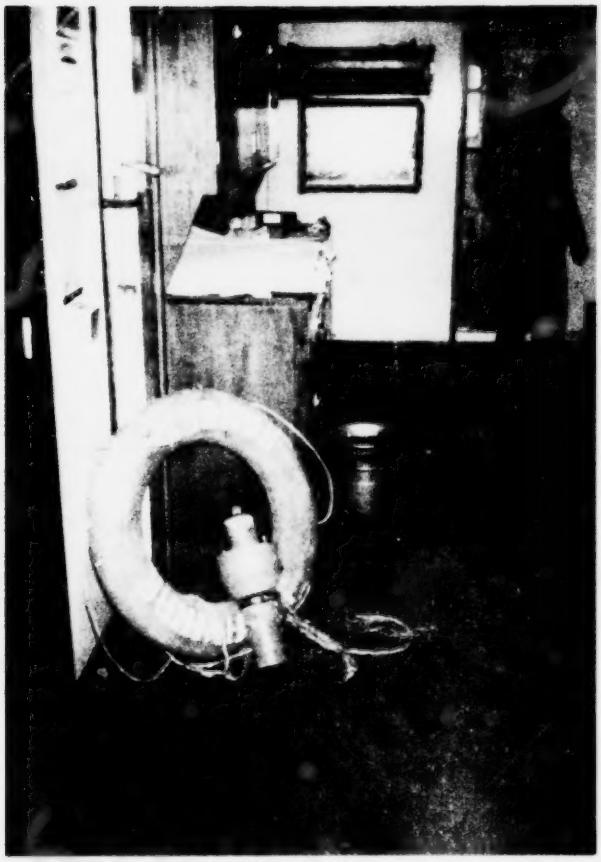
4.4.2 Taking account of this information, the Sub-Committee reviewed MSC/Circ.242 and was of the opinion that this circular still adequately covers the matter.

"JALAVIHAR"

View from wheel-house centre window

Port bridge wing

Wheel-house



The lifebuoy dislodged by the "GÉRARD LAMBERT"

The starboard bridge wing lifebuoy stowage bracket damaged during collision.